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Quality Engineering Test Report

SERIES: SD-50B 50W DC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY

SAMPLE:
A. SD-50B-5 5V / 10A
B. SD-50B-12 12V / 4.2A
C. SD-50B-24 24V / 2.1A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	DC INPUT VOLTAGE RANGE	I/P : TESTING SPEC : 19~36VDC O/P : FULL LOAD	A:15.4~36VDC	P
2	LINE REGULATION	I/P : 19~36VDC SPEC : A:±0.5% O/P : FULL LOAD B:±0.3% C:±0.2%	A: -0%~+0% B: -0%~+0% C:-0.03%~+0%	P
3	LOAD REGULATION	I/P : 24VDC SPEC : A:±0.5% O/P : MIN. TO FULL LOAD B:±0.3% C:±0.2%	A:-0.12%~+0.12% B: -0%~+0.05% C:-0.03%~+0%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P : 19~36VDC SPEC : A:±2% O/P : MIN. TO FULL LOAD B:±1% C:±1%	A:-0.12%~+0.12% B: -0%~+0.05% C:-0.03%~+0%	P
5	RIPPLE&NOISE	I/P : 24VDC SPEC : A:100mVp-p O/P : FULL LOAD B:120mVp-p C:150mVp-p	A:25mV B: 8mV C: 8mV	P
6	DC INPUT CURRENT	I/P : 24VDC SPEC : 3A O/P : FULL LOAD	A:2.75A	P
7	MAX. INRUSH CURRENT	I/P : 24VDC SPEC : NONE O/P : FULL LOAD	A:38.26A	P
8	O/P VOLTAGE ADJ. RANGE	I/P : 24VDC SPEC : A:4.5~5.5V O/P : MIN. LOAD B:11~16V C:23~30V	A:4.32~6.21V B:9.47~16.30V C:19.5~33.68V	P
9	SET UP TIME	I/P : 24VDC SPEC : 2.5S O/P : FULL LOAD	A:2000.3mS	P
10	EFFICIENCY	I/P : 24VDC SPEC : A:73% O/P : FULL LOAD B:75% C:80%	A:77.15% B:79.44% C:82.07%	P
11	OVER LOAD PROTECTION	I/P : 24VDC SPEC : 105%~150% O/P : TESTING	A:130% B:116.9% C:114.7%	P
12	OVER VOLTAGE PROTECTION	I/P : 24VDC SPEC : A:5.75V~6.75V O/P : TESTING B:16.8V~20V C:31.5V~37.5V	A:6.12V B:18.17V C:35.17V	P
13	INSULATION RESISTANCE	SPEC : I/P-O/P 500VDC/100M Ohms MIN. I/P-FG 500VDC/100M Ohms MIN. O/P-FG 500VDC/100M Ohms MIN.	A: I/P-O/P : >100M Ohms I/P-FG : >100M Ohms O/P-FG : >100M Ohms	P
14	DIELECTRIC / WITHSTAND VOLTAGE	SPEC : I/P- O/P : 1500VAC/ 1 min (10mA CUT-OFF) I/P- FG : 1500VAC/ 1 min (10mA CUT-OFF) O/P- FG : 500VAC/ 1 min (10mA CUT-OFF)	A: I/P-O/P : <2.24mA I/P-FG : <2.36mA O/P-FG : <3.34mA	P
15	BURN-IN TEST	I/P : 24VDC O/P:FULL LOAD TA : 25.7 °C BURN-IN DURATION : 4 hrs	NON BREAK	P
16	ENVIRONMENT TEST (SAMPLE A:)	1.LOW TEMPERATURE TEST I/P : 18.1 VDC O/P : FULL LOAD AMBIENT TEMPERATURE : -10 °C	AFTER 2 hrs POWER ON OK	P
		2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P : 37VDC O/P : FULL LOAD AMBIENT TEMPERATURE : 45.4 °C	AFTER 4 hrs NON BREAK	

NEXT

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>TEST CONDITION / SPECIFICATION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>17</td><td>TEMPERATURE RISE TEST T rise OF PARTS</td><td>A: I/P : 24VDC AFTER 4 hr BURN-IN
O/P : FULL LOAD TA : 24.6°C
<table>
<tr><th>POSITION</th><th>P/N</th><th>TEMP</th><th>T rise</th></tr>
<tr><td>Q1</td><td>MAIN TRANSISTOR</td><td>53.2°C</td><td>28.6°C</td></tr>
<tr><td>T1</td><td>MAIN TRANSFORMER</td><td>62.3°C</td><td>37.7°C</td></tr>
<tr><td>D11</td><td>O/P DIODE</td><td>62.5°C</td><td>37.9°C</td></tr>
<tr><td>C34</td><td>O/P FILTER CAPACITOR</td><td>53.0°C</td><td>28.4°C</td></tr>
<tr><td>L1</td><td>O/P CHOCK</td><td>59.3°C</td><td>34.7°C</td></tr>
<tr><td>C5</td><td>I/P FILTER CAPACITOR</td><td>49.3°C</td><td>24.7°C</td></tr>
</table></td><td>P</td></tr>
<tr><td>18</td><td>LIFE CYCLE</td><td>A: SUPPOSE C34 IS THE MOST CRITICAL COMPONENT
I/P : 24VDC O/P : FULL LOAD Ta : 25°C Tc34 : 53.4°C Life: 42971 hrs
I/P : 24VDC O/P : FULL LOAD Ta : 45.4°C Tc34 : 56.2°C Life: 35390 hrs</td><td></td><td>P</td></tr>
<tr><td>19</td><td>CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)</td><td>A: FUSE : 6.3AL/250V
INPUT DIODE : 1N5401
LINE FILTER : LS TF-096B EE-25
TRANSFOMER : CK TF-332 EI-28
POWER SWITCHER : 2SK889 TO-220
OUTPUT DIODE : S305C4M
OUTPUT CAPACITOR : 2200uF/16V(v) 105°C HL
INPUT CAPACITOR : N.C.C 330uF/100V KMF 105°C
P.C.B : SD-50 FR-4 2 OZ DS</td><td></td><td></td></tr>
<tr><th>DATE</th><th>SAMPLE</th><th>TEST RESULT</th><th>TEST</th><th>APPROVAL</th></tr>
<tr><td>980421</td><td>SD-50B</td><td>PASS</td><td>H.C.LIOU</td><td>Max Lin</td></tr>
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